

Holographic entanglement negativity for disjoint intervals in AdS_3/CFT_2

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Abstract

In this talk, I will describe our holographic construction for the entanglement negativity of bipartite mixed state configurations of two disjoint intervals in $(1 + 1)$ dimensional conformal field theories (CFT_{1+1}) through the AdS_3/CFT_2 correspondence. Our construction constitutes the large central charge analysis of the entanglement negativity for mixed states under consideration and involves a specific algebraic sum of bulk space like geodesics anchored on appropriate intervals in the dual CFT_{1+1} . I will recount the computation of the holographic entanglement negativity utilizing our construction for such mixed states in CFT_{1+1} s dual to bulk pure AdS_3 geometries and BTZ black holes respectively. I will show that our analysis exactly reproduces the universal features of corresponding replica technique results in the large central charge limit, which serves as a consistency check. Finally, I will conclude with a brief mention of the covariant version of our construction applicable to non static bulk configurations.

References:

- [1] V. Malvimat, S. Mondal, B. Paul and G. Sengupta, Eur. Phys. J. C **79** (2019) 191.
- [2] V. Malvimat, S. Mondal, B. Paul and G. Sengupta, Eur. Phys. J. C **79** (2019) 514.